This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A method for analyzing gene expression, the method comprising:

   a) receiving a plurality of dual channel DNA microarray images;

   b) analyzing said images to determine expression patterns of one or more disease-specific genes and one or more genes of unknown function; and

   c) comparing the expression patterns of said one or more disease-specific genes with the expression patterns of the one or more genes of unknown function to identify a subset of the one or more genes of unknown function which have similar expression patterns to those of the one or more disease-specific genes.

2. (original) The method of claim 1, wherein said obtaining dual channel DNA microarray images comprises

   i) receiving a plurality of single channel DNA microarray images; and

   ii) determining the ratio between said single channel DNA microarray images to yield a plurality of dual channel DNA microarray images.

3. (currently amended) The method of claim 1, wherein said comparing comprises

   i) generating an expression data vector for each expressed gene by categorizing whether each gene is ~~differential~~ differentially expressed or not differentially expressed;

   ii) analyzing vectors for two or more expressed genes to determine a co-differential expression probability; and

   iii) determining whether said probability for said two or more expressed genes is less than a specified probability threshold.

4. (currently amended) The method of claim 1, further comprising the step of translating said subset of one or more genes of unknown function to generate corresponding polypeptides.

5-6. (canceled)

7.   (currently amended) A computer program product comprising a machine readable medium on which is provided program instructions for analyzing gene expression, the instructions comprising:

code for receiving a plurality of dual channel DNA microarray images;

code for analyzing said images to determine expression patterns of one or more disease-specific genes and one or more genes of unknown function; and

code for comparing the expression patterns of said <u>one or more</u> disease-specific genes with the expression patterns of the <u>one or more</u> genes of unknown function to identify a subset of the <u>one or more</u> genes of unknown function which have similar expression patterns to those of the <u>one or more</u> disease-specific genes.

8.   (currently amended) The computer program product of claim 7, wherein said code for comparing expression patterns comprises

code for generating an expression data vector for each expressed gene by categorizing whether each gene is ~~differential~~ <u>differentially</u> expressed or not differentially expressed;

code for analyzing vectors for two or more expressed genes to determine a co-differential expression probability; and

code for determining whether the probability for said two or more expressed genes is less than a specified probability threshold.

9.   (original) The computer program product of claim 7, further comprising code for translating said subset of genes of unknown function to generate corresponding polypeptides.

10.   (original) The computer program product of claim 7, wherein said code for obtaining dual channel DNA microarray images comprises

code for receiving a plurality of single channel DNA microarray images; and

code for determining the ratio between said single channel DNA microarray images to yield a plurality of dual channel DNA microarray images.

11.   (currently amended) A computing device comprising a memory device configured to store at least temporarily program instructions for analyzing gene expression, the instructions comprising:

code for receiving a plurality of dual channel DNA microarray images;

code for analyzing said images to determine expression patterns of one or more disease-specific genes and one or more genes of unknown function; and

code for comparing the expression patterns of said <u>one or more</u> disease-specific genes with the expression patterns of the <u>one or more</u> genes of unknown function to identify a subset of the <u>one or more</u> genes of unknown function which have similar expression patterns to those of the <u>one or more</u> disease-specific genes.

12.   (currently amended) The computing device of claim 11, wherein said code for comparing expression patterns comprises

code for generating an expression data vector for each expressed gene by categorizing whether each gene is ~~differential~~ <u>differentially</u> expressed or not differentially expressed;

code for analyzing vectors for two or more expressed genes to determine a co-differential expression probability; and

code for determining whether the probability for said two or more expressed genes is less than a specified probability threshold.

13.   (original) The computing device of claim 11, further comprising code for translating said subset of genes of unknown function to generate corresponding polypeptides.

14.   (original) The computing device of claim 11, wherein said code for obtaining dual channel DNA microarray images comprises

code for receiving a plurality of single channel DNA microarray images; and

code for determining the ratio between said single channel DNA microarray images to yield a plurality of dual channel DNA microarray images.

15-22. (canceled)